

NON-PUBLIC?: N
ACCESSION #: 9009190081
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Zion Unit 1 PAGE: 1 OF 3

DOCKET NUMBER: 05000295

TITLE: Turbine Trip/Reactor Trip due to Personnel Error
EVENT DATE: 08/13/90 LER #: 90-017-00 REPORT DATE: 09/12/90

OTHER FACILITIES INVOLVED: N/A DOCKET NO: 05000

OPERATING MODE: 1 POWER LEVEL: 095

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR
SECTION:
50.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
NAME: Paul Geddes, LER Coordinator TELEPHONE: (708) 746-2084
ext. 2487

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE NPRDS: N

SUPPLEMENTAL REPORT EXPECTED: No

ABSTRACT:

Unit 1 was at steady state at 1030 MWe. Unit 2 was in Hot Shutdown, with Periodic Test (PT)-5A, "Reactor Protection Logic Reactor at Hot Shutdown" in progress. Due to difficulties encountered in testing, the need arose to trip Unit 2 locally. An extra Nuclear Station Operator rushed out of the Control Room, went to the wrong Unit, and tripped Unit 1.

The cause of this event was personnel error.

All safety systems operated as designed. There was therefore no safety significance to this event.

Corrective actions include tailgate sessions, better labeling at the turbine pedestals, repairing the turbine stop valve bypass valves, and an investigation to determine the feasibility of bypassing the turbine

bearing lift oil pump speed switch trip at low turbine speed.

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END OF ABSTRACT

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A. CONDITION PRIOR TO EVENT

MODE 1 - Power RX Power 95%
RCS AB! Temperature/ Pressure 559 degrees F/2235 psig

B. DESCRIPTION OF EVENT

The event occurred with Unit 1 operating at steady state at 1030 MWe. Unit 2 was in Hot Shutdown with Periodic Test (PT)-5A, "Reactor Protection Logic Reactor at Hot Shutdown" in progress. The operators were at the step in the procedure that called for the operator to latch the turbine, but encountered difficulty in opening the #1 and #3 turbine stop valves. An "A" Operator and one of the Shift Foremen were dispatched to the turbine front standard to troubleshoot the problem.

The event began when the Unit 2 turbine rolled off the turning gear. It reached approximately 200 rpm, when the turbine bearing lift oil pumps tripped. The turbine bearing lift oil pumps should not have tripped until approximately 600 rpm. The operators were concerned about the potential for damage to the turbine bearings without lubrication, and decided to trip the turbine. They were also concerned for the safety of the "A" operator that had gone inside the high pressure turbine enclosure to troubleshoot the stop valves, and therefore elected not to trip the turbine from the control room. One of the extra operators, present to perform PT-5A, volunteered to trip the turbine locally and rushed out of the south door of the control room. He stated that he went to the first turbine front standard he came to (Unit 1), checked to ensure the "A" operator was clear, and pulled the turbine trip lever. The trip recovery was normal. A formal Human Performance Evaluation System (HPES) investigation was performed for this event.

Review of the event concluded that the pressure and temperature transient experienced after the trip were normal for a reactor trip, and not due to the 15B heater relief lifting, as stated in the original Deviation Report.

C. APPARENT CAUSE OF EVENT

The root cause of this event was a personnel error. The operator developed a mindset with the urgency of his mission to trip the Unit 2 turbine and did not take the time to ensure he was on the right unit. He did not employ the Zion "Self Check" program.

The root cause of the difficulty in opening the turbine stop valves has been traced to the stop valve bypass valves. The bypass valves are poorly constructed valves mounted horizontally, which are subject to frequent sticking even with routine maintenance.

The root cause of the bearing lift oil pump trip is attributed to a spurious signal from the turbine electrohydraulic control system speed channel. Subsequent Instrument Maintenance troubleshooting could not recreate the event.

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D. SAFETY ANALYSIS OF EVENT

This event had no safety significance with the exception of the significance normally attributed to an unnecessary scram. All safety systems operated as designed.

E. CORRECTIVE ACTIONS

1. This event will be tailgated with all operations and maintenance personnel, with emphasis on the importance of employing the "Self Check" process.
2. Unit labels will be placed at the turbine pedestal for each unit.
3. The turbine stop valve bypass valves will be evaluated for replacement via the modification process.
4. Technical Staff will investigate the possibility of bypassing the turbine bearing lift oil pump speed trip during low turbine speeds.
5. Operating department lesson plans will be revised as necessary to address the actions required for the loss of the turbine bearing lift oil pumps.

These corrective actions will be tracked by HPES report #90-24.

F. PREVIOUS EVENTS

There have been several reactor trips due to personnel error. None of these (in the past 5 years) have been due to being on the wrong Unit, thus the corrective actions are not applicable to this event.

G. COMPONENT FAILURE DATA

This event was not caused by component failure, nor did any components fail as a result of this event.

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ATTACHMENT 1 TO 9009190081 PAGE 1 OF 2

Figure "Form 15-52-2.3" omitted.

ATTACHMENT 1 TO 9009190081 PAGE 2 OF 2

Commonwealth Edison
Zion Generating Station
Shiloh Blvd. & Lake Michigan
Zion, Illinois 60099
Telephone 708/746-2084

September 12, 1990

U. S. Nuclear Regulatory Commission
Document Control Clerk
Washington, D. C. 20555

Dear Sir:

The Enclosed licensee Event Report number 90-017-00, Docket No. 50-295/DPR-39 from Zion Generating Station is being transmitted to you in accordance with the requirements of 10CFR50.73(a)(2)(iv), which requires a 30 day written report when any event or condition occurs that results in manual or automatic actuation of any Engineered Safety Feature.

Very truly yours,

T. P. Joyce
Station Manager
Zion Generating Station

TPJ/jlc

Enclosure: Licensee Event Report

cc: NRC Region III Administrator
NRC Resident Inspector
INPO Record Center
CECo Distribution List

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*** END OF DOCUMENT ***
